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EXAMINER	
LAM, WAI YIP	
ART UNIT	**PAPER NUMBER**
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/927,841	CHANG ET AL.	
	Examiner	Art Unit	
	Wai Lam	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1- 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1 - 19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1 – 5, 7, 8, 10, 11, 13 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,815,794 (Williams) in view of U.S. Patent 5,020,129 (Martin et al.).

As to claim 1, Williams teaches a cable system (System 100 in Figure 1) having an RF module (Everything right of Unit 316 of Module 170 excluding Unit 316 in Figure 3) coupled to provide bidirectional communication between drop interface (Unit 316 in Figure 3) and a home interface (Remote point 104 in Figure 3).

Williams also teaches the said RF module (Everything right of Unit 316 of Module 170 excluding Unit 316 in Figure 3) having upstream (Return path 320 in Figure 3) and downstream path (Forward path 325 in Figure 3).

Williams also teaches said RF module (Everything right of Unit 316 of Module 170 excluding Unit 316 in Figure 3) comprises at least the downstream

path (Forward path 325 in Figure 3) having filters (Diplex filter 360 in Figure 3 referring to remote point 104). The downstream path is connected to a diplex filter (Unit 360 in Figure 3) that contains a high pass and low pass filter (Unit 370 and Unit 365 in Figure 3, respectively).

Williams also teaches that gate 330 in Figure 3 (referring to remote point 104) is controlled by the headend controller to connect/disconnect service to remote point 104 (Column 8, lines 14 – 18).

Williams fails to teach a controller for selectively providing unimpeded, partially impeded, and full cut off of cable service in the downstream path.

However, Martin et al. teaches a switching mechanism (Figure 1) that is controlled by a controller (microcontroller 14 in Figure 1, Column 7, lines 66 – 67, Column 8, lines 1 – 2) for selectively providing unimpeded, partially impeded, and full cut off of cable service in the downstream path. Martin et al. teaches that access to each logical channels can be provided or denied access based on authorized service codes (Column 4,lines 16 – 37). Therefore, if access is provided to all the logical channels, unimpeded service is provided. If access is provided to some logical channels, partially impeded service is provided. If accesses to all logical channels are denied, full cut off cable service is provided.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the gate switch and headend of Williams, using the switching mechanism and microcontroller of Martin et al., for

the purpose of enabling a cable operator to remotely disconnect terminated subscribers, and connect new subscribers (Column 2, lines 37 – 40).

As to claim 2, see rejection of claim 1 and note that Martin et al. also teaches wherein relays (switches 20, 22, 24, 26 in Figure 1) in the downstream path are operated by the controller (Microcontroller 14 in Figure 1 as discussed in claim 1) to obtain unimpeded, partially impeded, and fully cut off cable service. Martin et al. teaches microcontroller 14 in Figure is used to control the state of the switches 20, 22, 24, and 26 (as discussed in claim 1) o provide access to different channels (for example, channels A, B). By selecting the switches, channels A, B, C, and D can be selectively allowed or denied using either a positive trap or negative trap (Column 7, lines 31 – 47). Therefore, the present claim limitation is met.

As to claim 3, see rejection of claim 2 and note that Martin et al. also teaches wherein a filter for impeding frequencies above a given frequency is selectively coupled into the downstream path by said relays to pass only frequencies below said given frequency. Martin et al. teaches that series traps (Channel trap A – D in Figure 1) are fixed frequency filters for allowing or blocking reception of cable television channels (Column 8, lines 5 – 8). Therefore, relays (switches 20, 22, 24, and 26) are selectively coupled to the traps in the downstream path to pass only frequencies define by each cable television channel. This reads on the present claim limitation because the fixed frequency filter impedes frequencies above a given frequency and passes only

frequencies below said given frequency. Note that the fixed frequency filter also block frequency below a given frequency that is defined by the cable television channel. The present limitation does not claim that ALL of the frequency below the given frequency is passed, therefore, the present claim limitation is met if any frequencies below the given frequency is passed and none of the frequencies above the given frequency is passed.

As to claim 4, see rejection of claim 2 and note that Martin et al. also teaches wherein the controller (microcontroller 14 in Figure 1) operates said relays (Column 7, lines 66 – 67, Column 8, lines 1 – 2) to provide an open circuit in the downstream path to fully cut off cable service in the downstream path. Using the negative trap configuration as discussed in Column 7, lines 35 – 37 in Martin et al., wire 28 would not be selected by any of the switches 20, 22, 24, 26 in a fully cut off cable service. Therefore, the present claim limitation is met because the switches 20, 22, 24, and 26 in Figure 1 provide open circuits to wire 28 in the downstream path to deny access to unauthorized channels when a negative trap configuration is used.

As to claim 5, see rejection of claim 2 and note that Martin et al. teaches wherein the downstream path is provided with a bypass conductor (wire 28 using a negative trap configuration as discussed in claim 4) selectively coupled in the downstream path to provide unimpeded cable service to the subscriber. As discussed in claim 4, Martin et al. teaches that through connection 28 is selected for negative trap configurations when the trap corresponds to an authorized

channel (Column 7, lines 35 – 37). Therefore, if all the subscriber is authorized to receiver channels A – D, switches 20, 22, 24, 26 would be selected to connect to wire 28 (bypass conductor) using a negative trap configuration.

As to claim 7, see rejection of claim 1 and note that Williams also teaches the RF module (Everything right of Unit 316 of Module 170 excluding Unit 316 in Figure 3) having at least the upstream path (Return path 320 in Figure 3) having filters (Diplex filter 360 in Figure 3 referring to remote point 104). Diplex filter 360 that is connected to the upstream path contains a high pass filter and a low pass filter (Unit 370 and Unit 365 in Figure 3, respectively).

Williams fails to teach a controller for selectively providing unimpeded, partially impeded, and full cut off of cable service in the upstream path.

However, Martin et al. teaches a switching mechanism (Figure 1) that is controlled by a controller (microcontroller 14 in Figure 1, Column 7, lines 66 – 67, Column 8, lines 1 – 2) for selectively providing unimpeded, partially impeded, and full cut off of cable service. Martin et al. teaches that access to each logical channel can be provided or denied access based on authorized service codes (Column 4,lines 16 – 37). Therefore, if access is provided to all the logical channels, unimpeded service is provided. If access is provided to some logical channels, partially impeded service is provided. If accesses to all logical channels are denied, full cut off cable service is provided. Further, the switching mechanism simply controls which channels should be allowed or denied, without regards to the direction of traffic. Therefore, the switching mechanism of Martin

et al. can be inserted into the upstream path for controlling traffic in the upstream direction.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the upstream path of Williams, using the switching mechanism of Martin et al., for the purpose of enabling a cable operator to remotely disconnect terminated subscribers, and connect new subscribers (Column 2, lines 37 – 40) in the upstream path.

As to claim 8, see rejection of claims 2 and 7 and note that the switching mechanism can be used in the upstream path as discussed in claim 7. Therefore, the relays associated with the switching mechanism in the upstream path are equivalent to the relays on the downstream path as discussed in claim 2.

As to claim 10, see rejection of claims 4 and 8 and note that the switching mechanism can be used in the upstream path as discussed in claim 7. Therefore, using the negative trap configuration, the switches 20, 22, 24, and 26 in the upstream path provide open circuits to wire 28 to fully cut off cable service in the upstream path.

As to claim 11, see rejection of claim 8 for the corresponding limitations. Note that the switching mechanism can be used in the upstream path as discussed in claim 7. Martin et al. also teaches the series trap employed in the switching mechanism (Figure 1) is a fixed frequency filter for allowing or blocking reception of cable television channels (Column 8, lines 5 – 7). Therefore, the

traps are low pass filters that are selectively coupled (as discussed in claim 7) in the upstream path to provide unimpeded cable service in the upstream path. The fixed frequency filter is a low pass filter because it allows or blocks reception of a channel. The channel is composed of a certain frequency band that is either allowed or blocked by the fixed frequency filter. Therefore, the fixed frequency filter allows or blocks certain frequencies that are in between the upper and lower bounds of the certain frequency band designating a channel. Since the fixed frequency filter blocks frequencies above a given frequency and passes frequencies below that given frequency, it is a low pass filter and therefore the present limitation is met.

As to claim 13, see rejections of claims 1 and 7 and note that the controller as claimed would be the headend controller of Williams that is modified by the downstream controller of Martin et al. (as discussed in claim 1) and the upstream controller of Martin et al. (as discussed in claim 7).

As to claim 14, see rejections of claims 2, 8 and 13.

As to claim 15, see rejections of claims 9 and 14.

As to claim 16, see rejections of claims 4, 10, and 13.

As to claim 17, see rejections of claims 5 and 13.

2. Claims 6, 9, 12, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,815,794 (Williams) in view of U.S. Patent 5,020,129

(Martin et al.) as applied to claims 1, 7, 13 above, and further in view of U.S. Patent 6,678,893 (Jung).

As to claim 6, Williams and Martin et al. teach the cable system as discussed in claim 1. Williams fails to teach an adjustable amplifier in the downstream path operated by said controller for providing signal amplification to compensate for insertion loss.

However, Jung teaches an adjustable amplifier in the downstream path (Units 501, 502, 503, and 504 in the downstream path of Figure 5) operated by the headend (Unit 400 in Figure 4) for providing signal amplification to compensate for attenuation (Column 3, lines 22 – 25, Column 4, lines 14 – 16, 33 – 46). This reads on the limitations corresponding to the present claim.

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the headend of Williams, using the downstream amplifier (Units 501, 502, 503 and 504 in Figure 5) controlled by the headend of Jung, for the purpose of minimizing level changes of signals, therefore limiting signal loss to the end-user terminal (Column 2, lines 21 – 24).

As to claim 9, see rejection of claim 6 for the corresponding limitations and note that Martin et al. also teaches where a filter (fixed frequency filter) for impeding frequencies below a first frequency and above a second high frequency is selectively couple is selectively coupled into the downstream path by said relays to pass only frequencies between said first and second frequencies.

Martin et al. teaches that the traps (channel A – D trap in Figure 1) are series traps wherein each series trap is a fixed frequency filter for allowing reception of cable television channels (Column 8, lines 5 – 7). Therefore, the fixed filter filters and passes television channels that are defined by a first and a second frequency. This reads on the claim limitation because the filter (fixed frequency filter) only passes frequencies between the first and second frequency. All other frequencies not in the said television channel are thus impeded (not passed or filtered).

As to claim 12, Williams teaches the cable system as discussed in claim 7. Williams fails to teach an adjustable amplifier in the upstream path operated by the controller to provide power equalization to limit ingress noise in the upstream path.

However, Jung teaches an adjustable amplifier in the upstream path (Units 501, 502, 503, and 504 in the upstream path of Figure 5) operated by the headend (Unit 400 in Figure 4) for providing signal amplification to provide power equalization to limit ingress noise in the upstream path (Column 3, lines 22 – 25, Column 4, lines 14 – 16, 37 – 46). This reads on the limitations corresponding to the present claim.

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the headend controller of Williams, using the upstream amplifier controlled by the headend of Jung, for the purpose

of convenience so that the headend can have remote control of the gain of the amplifier (Column 3, lines 22 – 27).

As to claim 18, see rejections of 15 and note that Williams also teaches the use of a cable modem (Unit 185 in Figure 4). Unit 185 modulates and demodulates data in a cable network; therefore Unit 185 is considered a cable modem.

Williams fails to teach the cable system wherein the upstream path provided with an amplifier controlled by the cable modem to provide power equalization to limit ingress noise from the home interface.

However, Jung teaches the cable system wherein the upstream path is provided with an amplifier (Units 501, 502, 503 and 504 of upstream path in Figure 5) by a cable modem (Figure 6) to provide power equalization to limit ingress noise from the home interface (Column 2, lines 33 – 34, 43 – 45, Column 3, 23 – 25, Column 4, lines 32 – 40).

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the cable modem of Williams, using the upstream amplifier controlled by the cable modem of Jung, for the purpose of minimizing level changes of signals, therefore limiting signal loss to the headend (Column 2, lines 43 – 45).

As to claim 19, see rejections of claims 13, 14 and 15 and note that Williams also teaches the use of a cable modem (Unit 185 in Figure 4). Unit 185

modulates and demodulates data in a cable network; therefore Unit 185 is considered a cable modem.

Williams fails to teach the cable system wherein the downstream path provided with an adjustable amplifier controlled by the cable modem to avoid excessive insertion loss.

However, Jung teaches the cable system wherein the downstream path is provided with an amplifier (Units 501, 502, 503 and 504 of upstream path in Figure 5) controlled by a cable modem (Figure 6) to avoid insertion loss.

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art, to modify the cable modem of Williams, using the downstream amplifier controlled by the cable modem of Jung, for the purpose of minimizing level changes of signals, therefore limiting signal loss to the end-user terminal (Column 2, lines 21 – 24).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai Lam whose telephone number is (571) 272-2827. The examiner can normally be reached on Monday - Friday 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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